EFFECT OF HERBAL FEED ADDITIVE (*ASPARAGUS RACEMOSUS*) ON SNF% AND SNF YIELD OF THE MILK IN KANKREJ COWS

M. Soni[1], V. Kumar[2], S.C. Goswami[3], R.K. Singh[4] and Sita Ram Gupta[5]
Livestock Research Station, Beechwal
Rajasthan University of Veterinary and Animal Science, Bikaner-334 001, Rajasthan, India

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ABSTRACT

The present experiment was conducted with the objective of evaluation of effect of herbal feed supplement *Asparagus racemosus* (Shatavari) on the SNF% and SNF yield of milk in the kankrej cows. Total 16 lactating animals were selected for the experiment on the basis of parity, milk yield and body weight. These animals were grouped in 4 homogenous groups of 4 animals in each. Out of these, one group served as control group in which no supplementation was given. Cows in treatment groups T1, T2 and T3, respectively were fed herbal feed supplement Shatavari @ 50, 100 and 150 gm daily. During the supplementation period the SNF% and SNF yield were found significantly ($p<0.01$) in treatment groups than the control.

Introduction

Livestock rearing have a major contribution in the livelihood of the rural people. Dairy farming is one of the major source of income for rural people in states like Rajasthan whose economy depend majorly on livestock sector. Kankrej is one of the most important dual purpose breed of cattle with good milking ability even in the harsh arid environment of Thar Desert. Solid not fat % is one of the most important factor in which contribute in determining the price of milk in the market. Also consumers are more aware about the quality of milk and they prefer clean milk free of hormonal and chemical residues. So today there is need of use of herbal feed supplements in the dairy animals. Shatavari is one of the most important herb used for augmentation of milk and its quality in both lactating animals and women since ages. Realizing the safety and use of herbal feed supplement Shatavari the present experiment was conducted to evaluate the effect of herbal feed supplement Shatavari on SNF% and SNF yield of the milk in kankrej cows.

Materials and Methods

Present experiment was conducted on Kankrej cows maintained at Livestock Research Station, Kodemdesar, College of Veterinary and Animal Science, Bikaner. Sixteen healthy cows were selected on the basis of similar parity, milk yield and body weight. These animals were grouped in 4 homogenous groups T1, T2 , T3 and T4. One group (T4) served as control group wherein no supplementation was given. The T1, T2 and T3 groups served as treatment group in which Shatavari was fed @ 50, 100, 150 gm daily for a period of 60 days. All animals were fed as per NRC (1982) during supplementation period. Loose type of housing is used for housing of all experimental animals. Cows were hand milked twicea day and milk yield of individual animal was recorded daily. Milk samples were collected weekly for analysis. The solid not fat (SNF)% in the milk was measured weekly for individual animal by using MILKOTESTER - automatic milk analyser (Model No. LM-2 PH 13551) manufactured by Milkotester Pvt. Ltd., 49, Hristo Botev Street, 4470 BELOVO, Bulgaria. The weekly yield of SNF (SNFY) was calculated using following formula :

Solid not fat Yield (SNFY) **=** MY x SNF% / 100

Results and Discussion

The SNF % data has been presented in Table 1. The overall mean of SNF % were found to be 8.87 ± 0.04, 8.91 ± 0.09, 9.08 ± 0.04 in T1, T2 and T3 groups, respectively and 8.71 ± 0.06 in control group. The SNF% data revealed that SNF% in T3 was significantly higher ($p\leq0.01$) than control. However no significant difference was observed among the control, T1 and T2 groups and also among the T1, T2 and T3 groups. The SNF% in T3 was higher by 4.24% than control.

These results indicate that the Shatavari supplementation had positive effect on SNF% in milk during supplementation period. The results are similar to Shridhar and Bhagwat (2007) who reported that Galactin Vet bolus improved SNF% in dairy cows. Similarly, Santosh (2009) reported that significantly higher SNF% in milk of cows, those supplemented with Shatavari from prepartum to postpartum supplementation period. Sharma (2010) who reported that polyherbal supplentation had positive effect on milk SNF% and this positive effect continued even after discontinuation of polyherbal supplementation.

SNF yield data has been presented in the Table 2. The overall mean of solid not fat yield was found to be 0.53±0.01, 0.57±0.01, and 0.58±0.02 in T1, T2 and T3 groups, respectively and 0.40±0.02 in control group. The results revealed that the SNF yield was significantly higher ($p\leq0.01$) in all treatment groups than the control group however there is no significant difference between the T1, T2 and T3 groups. The SNF yield In T1, T2 and T3 groups was higher by 32.5, 42.5 and 45% over the control group. The higher SNF yield in T1, T2 and T3 could be attributed to higher milk yield and SNF%.

[1]Project Associate; [4]Officer Incharge; [2]Professor, Department of livestock Protection and management, CVAS, Bikaner-334 001 [3]Professor & Head, Department of Livestock Production and management, CVAS, Bikaner-334001; [5]Assistant Professor, Livestock Research Station, Kodamdesar, RAJUVAS, Bikaner

Table 1. Mean (±SE) of weekly solid not fat percentage in different treatment groups

Week	SNF % in Milk			
	Control	T1	T2	T3
1	8.58 ± 0.25	8.76 ± 0.08	8.76 ± 0.18	8.77 ± 0.14
2	8.58 ± 0.11	8.60 ± 0.19	9.00 ± 0.10	9.04 ± 0.30
3	8.56 ± 0.19	9.07 ± 0.18	8.86 ± 0.20	9.12 ± 0.022
4	8.87 ± 0.20	9.01 ± 0.21	8.99 ± 0.20	9.08 ± 0.04
5	8.74 ± 0.09	9.00 ± 0.02	8.91 ± 0.11	9.14 ± 0.13
6	8.78 ± 0.25	8.88 ± 0.09	8.94 ±0.07	9.21 ± 0.02
7	8.75 ± 0.10	8.77 ±0.20	8.61 ±0.29	9.19 ± 0.23
8	8.84 ± 0.13	8.91 ± 0.23	9.18 ± 0.18	9.13 ± 0.11
Mean (±SE)	8.71^{a} ±0.06	8.87^{ab} ± 0.04	8.91^{ab} ±0.09	9.08^{b} ± 0.04

Note: means bearing different superscripts within a row differ significantly ($p \leq 0.01$)

Table 2. Mean (±SE) of weekly solid not fat yield (kg/cow/day) indifferent treatment groups

Week	SNF Yield (kg/cow/day)			
	control	T1	T2	T3
1	0.38^{a} ± 0.02	0.42^{ab} ± 0.01	0.45^{b} ±0.01	0.46^{b} ±0.02
2	0.38^{a} ± 0.02	0.46^{b} ±0.01	0.53c± 0.02	0.54^{c}± 0.02
3	0.39^{a} ±0.01	0.53^{b} ±0.02	0.57^{b} ± 0.01	0.59^{b}± 0.02
4	0.41^{a} ± 0.03	0.56^{b} ± 0.03	0.60^{b} ±0.02	0.59^{b} ±0.02
5	0.40^{a} ± 0.02	0.56^{b} ± 0.02	0.60^{b} ± 0.01	0.60^{b}± 0.02
6	0.40^{a} ± 0.03	0.56^{b} ±0.01	0.61^{b} ± 0.02	0.60^{b}± 0.02
7	0.4^{a}±0.022	0.55^{b} ±0.01	0.5^{b} ± 0.03	0.61^{b}± 0.03
8	0.40 ± 0.01	0.59^{b} ±0.01	0.64 ± 0.03	0.63^{b}± 0.01
Mean (±SE)	0.40^{a} ± 0.02	0.53^{b} ± 0.01	0.57^{b} ± 0.01	0.58^{b}± 0.02

Note: means bearing different superscripts within a row differ significantly ($p \leq 0.01$)

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